

Claims

- [c1] 1.A dynamically molding orthotic device, said device comprising:
 - a counter frame for providing support;
 - at least one envelopment secured in said counter frame;
 - and
 - a moldable material contained in said at least one envelopment for movement due to the interaction between the counter frame, the anatomy of the extremity of a user and the biomechanical movement of the extremity to provide support and protection to the extremity.
- [c2] 2.The orthotic device of claim 1 wherein said counter frame includes:
 - at least one thinner portion extending under the area of greatest pressure to provide greater flexibility to allow ease of movement of said moldable material.
- [c3] 3.The orthotic device of claim 1 wherein said counter frame includes:
 - a thinner portion in shape of a numeral 8 extending under the area of greatest pressure to provide greater flexibility to allow ease of movement of said moldable material.

- [c4] 4.The orthotic device of claim 1 wherein said counter frame includes:
at least one rib extending along said counter frame in the area of said envelopment to assist in the movement of said moldable material.
- [c5] 5.The orthotic device of claim 1 wherein said counter frame includes:
multiple ribs extending along said counter frame in the area of said envelopment to form channels to assist in the movement of said moldable material.
- [c6] 6.The orthotic device of claim 1 wherein said counter frame includes:
a thinner portion extending under the area of greatest pressure to provide greater flexibility to allow ease of movement of said moldable material; and
at least one rib extending along said counter frame in the area of said thinner portion to assist in the movement of said moldable material.
- [c7] 7.The orthotic device of claim 1 wherein said counter frame includes:
side walls that extend higher at the rear portion of said counter frame to assist in the movement of the moldable material.

- [c8] 8.The orthotic device of claim 1 wherein said orthotic device includes:
a contact layer covering said envelopment.
- [c9] 9.The orthotic device of claim 1 wherein said moldable material includes:
a cork binder;
cork particle; and
a thermal exchange component
- 10.The orthotic device of claim 1 wherein said moldable material includes:
a cork binder formed from vegetable oil and mineral oil;
medium grade and size cork particles; and
a thermal exchange component.
- [c10] 11.The orthotic device of claim 1 wherein said orthotic device includes:
Stabilizer on said counter frame to provide reinforcement, said stabilizer including a tough resilient material not affected by the heating of said moldable paste.
- [c11] 12.The orthotic device of claim 1 wherein said orthotic device includes:
a stabilizer on said counter frame to provide reinforcement, said stabilizer including a composite material not affected by the heating of said moldable material.

- [c12] 13.The orthotic device of claim 1 wherein said orthotic device includes:
- a heel portion on said counter frame;
- a stabilizer on said heel portion to provide reinforcement, said stabilizer having a slightly rounded heel base shape and a lofted arch bridge to compensate for the dynamics of the shape and biomechanical movement of the extremity while providing a dynamic narrowing of the side walls of said counter frame as said heel portion is weighted to provide stabilizing to said heel portion.
- [c13] 14.An orthotic device for use with the support of extremities, said orthotic device comprising:
- a base member having a heel portion;
- a stabilizer on said heel portion to provide reinforcement, said stabilizer having a slightly rounded heel base shape and a lofted arch bridge to compensate for the dynamics of the shape and biomechanical movement of the extremity while providing a dynamic narrowing of the side walls of heel portion as said heel portion is weighted to provide stabilizing to said heel portion.
- [c14] 15.The orthotic device of claim 14 wherein said orthotic device includes:
- said base member having a counter frame for providing support;

at least one envelopment secured in said counter frame;
and

a moldable material contained in said at least one envelopment for movement due to the interaction between the counter frame, the anatomy of the extremity of a user and the biomechanical movement of the extremity to provide support and protection to the extremity.

[c15] 16.The orthotic device of claim 15 wherein said counter frame includes:

at least one thinner portion extending under the area of greatest pressure to provide greater flexibility to allow ease of movement of said moldable material.

[c16] 17.The orthotic device of claim 15 wherein said counter frame includes:

a thinner portion in shape of a numeral 8 extending under the area of greatest pressure to provide greater flexibility to allow ease of movement of said moldable material.

[c17] 18.The orthotic device of claim 15 wherein said counter frame includes:

at least one rib extending along said counter frame in the are of said envelopment to assist in the movement of said moldable material.

- [c18] 19.The orthotic device of claim 15 wherein said counter frame includes:
multiple ribs extending along said counter frame in the area of said envelopment to form channels to assist in the movement of said moldable material.
- [c19] 20.The orthotic device of claim 15 wherein said counter frame includes:
a thinner portion extending under the are of greatest pressure to provide greater flexibility to allow ease of movement of said moldable material; and
at least one rib extending along said counter frame in the area of said thinner portion to assist in the movement of said moldable material.
- [c20] 21.The orthotic device of claim 15 wherein said counter frame includes:
side walls that extend higher at the rear portion of said counter frame to assist in the movement of the moldable material.
- [c21] 22.The orthotic device of claim 15 wherein said orthotic device includes:
a contact layer covering said envelopment.
- [c22] 23.The orthotic device of claim 1 5wherein said moldable material includes:

a cork binder;
cork particle; and
a thermal exchange component

24.The orthotic device of claim 15 wherein said moldable material includes:

a cork binder formed from vegetable oil and mineral oil;
medium grade and size cork particles; and
a thermal exchange component.

[c23] 25.The orthotic device of claim 15 wherein said orthotic device includes:

a stabilizer on said counter frame to provide reinforcement, said stabilizer including a tough resilient material not affected by the heating of said moldable paste.

[c24] 26.The orthotic device of claim 15 wherein said orthotic device includes:

a stabilizer on said counter frame to provide reinforcement, said stabilizer including a composite material not affected by the heating of said moldable material.

[c25] 27.A method for dynamically molding an orthotic device having a moldable material, said method comprising the steps of:

applying pressure against said moldable material by an extremity of a user during movement to allow the heat and pressure of the extremity to cause flow of the mold-

able material to the area of the extremity needing support.

- [c26] 28.The method of claim 27 wherein said method further includes the steps of:
 - using a heating unit to preheat said moldable material;
 - and
 - cooling said heated moldable material while allowing said moldable material to retain some heat to improve the efficiency of said dynamically molding method.

- [c27] 29.The method of claim 27 wherein said method further includes the steps of:
 - providing a heel stabilizer in the frame of an orthotic system; and
 - causing said heel stabilizer to dynamically narrow the spacing between the side walls of said orthotic system as weight is applied against said stabilizer.